



PORT BLAKELY
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5 January, 2015

Zach Radmer
Field Supervisor
U.S. Fish and Wildlife Service
Washington Fish and Wildlife Office
510 Desmond Drive, Suite 102
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To Whom It May Concern:

Thank you for the opportunity to serve as a Peer Reviewer on the proposed rule to list the "West Coast Distinct Population Segment for Fisher". Overall, this is a well-researched and well-written proposed rule, and I congratulate the U.S. Fish and Wildlife Service (USFWS) on its approach towards efforts to conserve the Fisher, and its habitat in California, Oregon and Washington. The focus of my comments is on the scientific details discussed in the proposed rule and the draft Species Report, as specifically requested by the Washington Fish and Wildlife Office.

The following entries in the proposed rule and draft Species Report documents can be strengthened by correcting an identified inaccuracy, limiting the assumptions related to fisher habitat requirements, and by considering the short- and long-term benefits of active forest management, climate change, and natural disturbances.

The density of fisher on Green Diamond Resource Company lands in Humboldt County, California reported in Table 2, page 40 of the draft Species Report is incorrect. Thompson (2008) published density results for male and female fisher in "individuals per hectares". These values are incorrectly reported in the draft Species Report as "individuals per 100 km²" (or 100 per hectare).

Beginning on page 60428 of the proposed rule, third column and continuing to the first column on page 60429, the "Wildfire and Fire Suppression" section refers to low-, mid- and high-severity fires as having negative impacts on fisher habitat. I suggest considering naturally-occurring wildfires in the West Coast region as an ecological disturbance that results in a potential long-term habitat enhancement rather than a short-term negative stressor. Fisher, and the prey species they rely upon, evolved under a natural disturbance regime that includes wildfires. Many disturbances, such as wildfires, are part of the natural ecological process that maintains and recruits late-successional forest characteristics important to fisher (e.g. large snags with cavities and

large downed wood). Although relatively short-term (years) habitat loss can undoubtedly occur as identified in this section of the proposed rule, long-term (decades) habitat recruitment should be considered as beneficial. In addition, the proposed rule discusses fire suppression in the context of fisher habitat removal (snag removal, fire breaks, etc.) rather than identifying large-scale fire suppression as the elimination of an important historical, naturally-occurring, ecological process that can potentially create and maintain fisher habitat over various spatial and temporal scales. Finally, it is ironic that USFWS identifies/dismisses disease and predation as naturally occurring sources of mortality (see Factor C, page 60431, first column, second paragraph), yet does not consider naturally-occurring wildfires or climate change as such.

Beginning on page 60429 of the proposed rule, second column, and page 77 of the draft Species Report, the effects of climate change are identified as potentially negatively affecting fisher habitat by altering the structure and tree species composition. The estimates of tree species distributional changes seem much too rapid (<100 years) considering the lifespan of conifer and hardwood tree species (>100 years) in the Pacific Northwest. Thus, the response of tree species distribution to global warming will likely occur over much longer time scales. Additionally, because fisher prefer low- to mid-elevations, with low or no snowfall, their habitat will likely increase as global temperatures increase (see Aubry et. al. 2012).

On page 60429 of the proposed rule; third column, last sentence, the evaluation of current vegetation management stressors, and more specifically habitat removed or degraded attributed to timber harvest, is likely overestimated by totaling filed timber harvest plans to estimate total harvested area. Many even-age harvest plans and/or permits report gross acres rather than net harvested acres. In addition, regulated and non-regulated (voluntary) retention areas are not always accounted for in these permits. Also, it is not clear if a distinction is made between even-aged harvest and various levels of uneven-aged harvest. This could be an important distinction if uneven-aged harvest results in an acceleration of forest composition and structural components important to fisher (for example, commercial thinning activities can accelerate the development of habitat important to prey species that fisher utilize, further discussion can be found in forest management sections of several federal Habitat Conservation Plans and Safe Harbor Agreements). Likewise in this section (page 60430, first column, second paragraph), only vegetation management-related habitat loss was included as a stressor with no consideration of habitat recruitment and/or the habitat enhancements to fisher prey populations as a result of active management on private timberlands (small forest landowners and industrial timberlands). The habitat models in the draft Species Report fail to account for annual tree growth, re-growth after harvest, stand development into various seral stages, and periodic natural disturbance that create habitat components important to fisher and their prey.

In regards to the use of northern spotted owl habitat data as a surrogate for fisher habitat data (page 60422, first column, last paragraph), I question why the USFWS chose to ignore the research finding of Weir and Corbould 2010, Klug 1997, Self and Kerns 2001, Lindstrand 2006, Self and Callas 2006, Reno et al. 2008, Lewis and Stinson 1998, and others that reported fisher foraging and reproducing in managed forest landscapes and forest stands not classified as mature or late successional (see draft Species report pages 17 and 18). Northern spotted owl habitat, especially habitats classified as nesting-roosting-foraging, has very narrow parameters (size and density of snags per acre, canopy closure, amount and size of large downed wood, shrub cover, tree density, patch size, etc.), and using only this narrow habitat type of a specialized bird species likely underestimates the reported broader habitat types used by the more generalist and opportunistic fisher. Did the USFWS consider including habitat types reported to be used by fisher in the aforementioned studies? Additional studies mentioned on page 18 of the draft Species Report further support the justification for considering fisher prey species distribution and vulnerability in addition to forest structural characteristics.

On page 60438, first column, third paragraph, I applaud the USFWS for considering distinct population segment alternatives, and for recognizing that the Washington and Northern Oregon native populations are likely extirpated and that there is a genetic difference between the native fishers in California and Southern Oregon to those non-native individuals that have been recently reintroduced. I appreciate the USFWS's willingness to work collaboratively with private landowners, state agencies, and other federal organizations on fisher reintroduction and conservation efforts.

Thanks again for the opportunity to serve as a Peer Reviewer for this proposed rule.

Sincerely,

A handwritten signature in dark ink, appearing to read "Blake Murden", with a stylized flourish at the end.

S. Blake Murden, PhD

Director, Wildlife and Fisheries, Port Blakely Tree Farms, LP